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RESEARCH MEMORANDUM



TILBURG UNIVERSITY
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Netherlands

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Periodization approaches of capitalist
development. A critical survey

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by

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I. Introduction¹⁾

The structural character of present crisis, which, according to many economists, started about 1970 and will prevail at least until 1990, explains the increasing interest in middle and long term movements of economic growth. Several authors of different positions have tried to interpret the prolonged depression in the framework of long phases which have marked the capitalistic development in the last two centuries.

Recent debates on long waves and stages theories have posed some questions about the cause and the nature of the middle term movements which can be summarized as follows:

- a) Are the phases to be seen as sinusoidal supra-cyclical oscillations, i.e. as long waves with a regular periodicity of 45-60 years, as, for instance, Kondratieff, Marchetti and Piatier suggest? Or is it a matter of long swing dynamics without any symmetrical periodicity or predictability for the future upswing, as Mandel, Gordon and Altvater argue?
- b) If any symmetrical periodicity is refused, is it helpful to define long waves as expressions of stage, epoch, phase or period of capitalistic development (Mandel, Gordon, Altvater)? Or, on the contrary, would it be more appropriate to abandon the long wave concept in favor of the stage concept, as it is suggested by Kleinknecht 1979, Maddison, Baran and Sweezy, Aglietta and De Vroey?

1) I wish to thank Jörg Glombowski for his help to find a clearer formulation of some theoretical questions.

- c) What is the driving force which explains the passage from each long wave (turning point) or each phase to the next: endogenous²⁾ factors (Kondratieff, Gordon 1978) or exogenous elements (Baran and Sweezy, Maddison, Kleinknecht 1979) or rather a dynamic system of transformation and discontinuity in the framework of a long term tendency (Mandel) or of a specific institutional structure (Gordon, Edwards, Reich; Aglietta, De Vroey; Altvater 1983)?
- d) If purely economic factors (Kondratieff) are not sufficient to explain the transformations, can we speak in terms of external factors which interrupt the continuity of a long term tendency (Mandel, Baran and Sweezy)? Or is such an interaction between external and internal elements a too simple way of conceiving economic change, which must rather be understood as the result of a deep rupture in institutional conditions (Gordon, Edwards, Reich; Aglietta, De Vroey; Altvater 1983)?
- e) What is the role of statistical evidence in the long wave explanation?³⁾

I will discuss these questions by describing and commenting on some formulations of the long wave and/or stages theory. The choice of the re-

2) About this point a methodological debate has risen between different authors which seems to me at times not really justified. It is often misleading to attack a theory without investigating the conceptual meanings of its formulations. In fact the word "endogenous" assumes, within different theories, very different implications: it can mean "capital inherent" (Mandel) or designate various factors which are not immediately capitalistic but cannot be analyzed separately from the capitalistic mode of production (Gordon, Edwards, Reich, p. 26).

3) Also about this point there are different opinions in Marxist theories. Whereas Mandel argues that a theory of long waves which cannot be confirmed empirically is "an unfounded working hypothesis and ultimately a mystification" (Mandel 1980, p. 140), other authors deny the very importance of statistical evidence. According to them quantitative indicators do not "prove" the existence of long swings, they simply illustrate a working hypothesis providing support for the long swing theory. Without being conclusive at all, they suggest its plausibility (Gordon, Edwards, Reich, p. 41 f.).

viewed authors, which are all Marxists,⁴⁾ is due to my interest - which of course cannot be exhausted in the very limited space of this work - to define how relevant the long swing perspective can be for Marxist economic research.

4) I am aware of the broad spectrum of positions this term implies. As a criterium I regard as 'Marxist' those economists who assert themselves to base their reflections on Marxian analysis, no matter how far they go in revising some analytical tools and conclusions. According to this criterium Mandel, Baran and Sweezy, Altvater, Kleinknecht, Gordon, Edwards and Reich, Aglietta and De Vroey are Marxists, whereas Mensch and Maddison are not.

II. The theory of Mandel

With his two major contributions to the long wave theory (Mandel 1972 and 1980) Ernest Mandel has stimulated the revival of an interesting discussion in more recent debates.

It would take me too far afield to review the details and all aspects of his theory. I aim at briefly summarizing Mandel's chief assumptions about causes and development of long fluctuations as well as his definition of 'historical periods' of faster and slower accumulation. Critical elements shall emerge together with positive considerations of his approach.

According to the Marxian base of this approach, the essential movements that determine the trends of capitalistic systems are the fluctuations in the average rate of productive capital accumulation. Mandel is interested in enriching the business cycle theory through its articulation with a medium term frame: the so called long wave of 45-50 years duration which imposes its rhythm on shorter fluctuations. He aims at explaining how it is possible that following three (lower) turning points in the history of capitalism - 1848, 1893 and 1940/48 - there were persistent long term increases in the average rate of economic growth. His answer is that when several factors operate in a cumulative and synchronized way, they cause a sudden upturn in the rate of profit.¹⁾ These 'triggering' factors are said to be exogenous forces counteracting the tendency of the average rate of profit to decline, i.e. mostly extra-

1) These 'triggering' factors are:

1. a sharp and sudden increase in the mass and/or the rate of surplus value,
2. a sharp and sudden fall in the average organic composition of capital,
3. a sharp and sudden quickening in the turnover of circulating capital,
4. a sharp and sudden fall in the price of elements of constant capital (raw materials) or in the price of fixed capital.

Mandel, who does not explain adequately why all these movements - together with the increase of the profit rate - must be sharp and sudden, argues that they are determined by exogenous events like the broadening of the world market through wars, discoveries of new gold fields, revolutionary advances in labor productivity, communications and transport, and by radical changes in the sociopolitical environment which can weaken working class resistance. (See Mandel 1972, p. 115 f.; 1980, p. 14 f.; 1981, p. 335 f.).

economic variables, 'external shocks' which give a spur to the whole system. Once the long wave gets under way, it develops according to a cumulative process; it allows for the implementation of a technological revolution which also contributes to the acceleration of capital accumulation (technological rents are received which drive up the average rate of profit and are not realized at the expense of less productive capitals). Economic growth induces relevant increases in employment (but real wages increase only slowly, less rapidly than labor productivity in department II) and raises the rate of surplus labor.

Expansion and prosperity develop according to an internal logic: successively, the triggering factors which lifted up the rate of profit by lowering the organic composition of capital and/or making the rate of surplus value quickly rise begin to exhaust their potential, their effect decreases and wears off. At a certain point it becomes impossible to invest the total amount of accumulated capital at an adequate rate of profit. As a result of relative overaccumulation (i.e. too much capital is available to gain the expected social average rate of profit), the average profit rate declines. Meanwhile real wages have become relatively high, class struggle has intensified at the expense of increases in the rate of surplus value. The disappearance of technological rents strengthens the decline in the pace of accumulation (rate of profit and of investment). Now capital investments diminish; capital is devaluated and destroyed (and this will, according to Mandel, lead to an abundance of money capital available for the next upswing and enable reproduction of reserve army of labor).

The world hegemony of a given power (Great Britain, North America) is undermined: this makes possible a further erosion of monetary stability. Rationalization investments go under way as a second phase of technological revolution: innovations are generalized and spread without a significant recovery for the profit rate. Investment and accumulation rates further decline. The capitalist class is now seeking for new sources of raw materials and new procedures to reduce labor costs. The sharpened crisis of capital valorization spreads into a prolonged social and political crisis. At this point a new exogenous shock is required for reversing the previous pattern by initiating the following expansionary phase. "The entire capitalist industrial cycle thus appears to be the consequence of accelerated capital accumulation, over-accumulation,

decelerated capital accumulation and under-investment. The rise, fall and revitalization of the rate of profit both correspond to, and command, the successive movements of capital accumulation." (Mandel 1980, p. 109 f.).

Mandel, who aims at supporting the long wave hypothesis without any determinism and criticizes Kondratieff's explanation in terms of internal economic causes only, defines his working concept as "a complex dialectical interplay of various processes that are not mechanically and one-sidedly predetermined", a system of "key variables" which are "partially autonomous", i.e. external to the inner logic of capital accumulation (op.cit., p. 28 f., 14, 12). This turns to give a typical asymmetric rhythm to the poles of the wave: whereas the upper turning point from prosperity to recession is determined by endogenous factors (rise in the organic composition of capital, stagnation of relative surplus production, development of contradictions internal to the nature of capital), at the lower turning point "exogenous system shocks of various kind are needed to propel the system out of the depressive phase" (Mandel 1981, p. 332).

Mandel subdivides each of the four long waves that constitute the historical development of capitalism into the two phases:

1. 1793-1847. This period is characterized by handicraft and manufacture. This was the long wave of industrial revolution and of the constitution of the world market. The upper turning point is located in 1826.
2. 1848-1893. This period of free competition is characterized by the transition from the manufacture-made to the machine-made steam engine. Mandel calls it the long wave of the first technological revolution, with the turning point in 1874.
3. 1894-1939. This is the long wave of the second technological revolution, characterized by the general application of electric and combustion engines in all industrial branches, by imperialism and finance capital. The reversion from the upward to the downward swing occurs in 1914.
4. 1914-...?. This long period begins in Western Europe and Japan only in 1945-48 and is characterized by the general control of machines by means of electronic apparatuses and by the gradual introduction of

nuclear energy. It is the long wave of the third technological revolution. The year 1967 represents the beginning of the downswing.

Mandel's theory of long waves or stages of capitalist development aims at integrating economic, social and historical science. Proceeding from his work of 1972, in which the long wave hypothesis has already been elaborated within the framework of a late capitalistic stage, to his book of 1980, Mandel revises his earlier formulations,²⁾ trying to support them with further statistical material. In the general context of his approach, some weaknesses his theory suffers from seem to become even more accentuated. I will briefly point out the most relevant ones. Let us first consider the role of technology. In 1972 Mandel attributed a great importance to it, as a complementary circumstance which explains the sudden increase of the rate of profit, by giving interesting formulations about innovation. Instead of concretizing them, he disperses his previous approach by petrifying it in a mere historical description for the sake of a periodization. When developed, the role of technology - in spite of being called a triggering factor which can shock the whole production system - seems to be converted into an exclusively negative element which makes the economy lapse into an insurmountable stagnation. (See Mandel 1980, p. 113 f; 1981, p. 334). Much of what he writes about present stagflation is valuable, but the author inclines to look at technological innovations according to another 'asymmetry' which leads him to ignore peculiar features of what he calls the third technological revolution³⁾ and to accentuate the self-destructive tendency of capitalism.

Mandel's answer to Rob Rowthorn (Mandel 1980, pp. 9-11) does not seem to capture the very significance of that critique. Saying that Mandel laid

2) In this paper I refer mainly to Mandel 1972, 1980 and 1981. Among his numerous contributions I will also mention Mandel 1964, in which he forecast the slowdown of the post war boom and the beginning of a new long wave with depressive trends; furthermore Mandel 1978.

3) I think of the potential effects of new discoveries on branches which seem to have exhausted themselves. Moreover, what Mandel mentions as the automatisisation era includes a broad spectrum of new areas of innovations (information sciences, electronics and telematics, biotics, aquaculture a.o.) which are still in an embryonic phase but will surely change the whole way of life. For interesting formulations about the potentialities of the forth industrial revolution see Piatier 1981 and 1983.

too much stress on technology as such and not enough on the institutional factors which govern its application, Rowthorn added that he did not treat productivity advance in the service sector adequately and gave too little weight to the recent phenomena of 'catching up' by Europe and Japan with the USA and to the future increase in productivity which will spread towards many underdeveloped countries (Rowthorn, p. 121 f.). Whereas this criticism pleads for a more correct and fruitfull elaboration of technological change, Mandel interprets it as an accusation of 'technicism' inherent to his theory and hurries to repeat that his approach by no means considers technological revolutions as the causes of long term upsurges in the average rate of industrial growth, these causes being exclusively related to the fluctuations in the average rate of profit.

In my opinion he hesitates to make a choice between the genuine purpose of developing a Marxian approach and a sort of obsessional preoccupation for the building of Marx's categories, as if they were undisputable laws; more to the detriment than to the advantage of the theory he creatively wants to contribute to. The effort of presenting his analysis as embedded in the Marxian system turns out to compel the purpose of a stimulating research to narrow paths.

As a result, the attention payed to statistical data is too poor to provide his theory with an adequate empirical support. In spite of his often repeated assertion about the 'verifiable' nature of his long wave theory, as a theory which is supported by adequate statistical data (Mandel 1972, p. 140; 1980, p. 2 ff.; 1981, p. 333), empirical indicators are too confuse and often contradictory. Moreover, they are not related to the central variables of the argument: the organic composition of capital and the rate of surplus value. By quoting from other authors he arbitrarily stresses an evidence one cannot find in the cited material, which thus does not confirm his conclusions.⁴⁾ His tables of average annual compound rates of growth in the industrial output for Great Britain, Germany and USA, in physical per capita output on a world scale and in the volume of world trade are a too vague 'verification' of

4) For a critique of the empirical support on which Mandel asserts to base his long wave theory see Maddison, chapter 4; Rowthorn, p. 102 ff.; Veraa, pp. 29-31 among others.

the theory. At times, the statistical indicators are not quite compatible with Mandel's historical periodization, their evidence does not support the parallelism between increase in the profit rate and the accumulation growth which is implied in his wave concept. The fact that conventional statistics are not always suited for proving Marxist argumentations is not a good excuse for these lacunas. After all, one has the impression that Mandel is mostly interested in asserting causal relationships on a socio-historical and often very abstract level. He develops theoretical statements about phases of accelerated and decelerated capital accumulation as historical periods and then tries to corroborate them through average estimations of different figures which remain substantially not related to the former.

Another aspect of this fundamental contradiction can be pointed out with regard to the difficulty of inserting the study of institutional conditions into economic analysis. Mandel does not pay attention to the peculiar organization of labor and forgets that the "subjective factor in history (the class consciousness and political leadership of basic social classes)" is in itself the result of a complex interaction of economic, political and social factors. In Mandel's analysis, class struggle turns to emerge as Hegel's 'Geist', a sort of pure spirit which liberates himself from all the troubles of this world to proclaim in a voluntaristic impetus that time for revolution has come. (See Mandel 1980, p. 51, 119 f.).⁵⁾

As a matter of fact, I cannot understand the often stressed 'asymmetry' which characterizes Mandel's concept of the long wave. We see that economic and noneconomic factors interfere reciprocally during the whole

5) In spite of his pessimistic vision about the future of capitalism, Mandel must admit that economic recovery is possible. But, in his opinion, a new powerful expansion would imply a shattering defeat of the working class, radical curtailment of democratic freedoms, perhaps new dictatorships, destruction of immense resources, barbarism. The need of a political alternative makes him point out the inevitability of revolution and take for granted the existence of a "growing vanguard of radicalized workers" who will "contribute decisively to the appearance of a new leadership and new revolutionary parties capable of rising to the level of responsibility demanded by the very nature of the tests of strength to be faced." (Mandel 1980, p. 115). For a discussion and a critique of Mandel's concept of the working class as subjective and exogenous moment in history see Veraa, p. 37 ff.

course of the wave: exogenous stimuli such as wars of conquest, extensions and contractions of the area of capitalist operation, intercapitalist competition, the role of the state, class struggle, revolutions and counterrevolutions etc. "trigger" the endogenous elements of the economy such as the rate and mass of surplus value, the organic composition and turnover of capital among others. To say that capitalism develops its internal contradictions (what is true) is not the same as to locate endogeneity or exogeneity nearly exclusively on one opposite point of the whole movement, what necessarily results in the neglect of the reciprocal role those factors play - with more or less intensity - at many moments of the process.

Paradoxically enough, this asymmetry reintroduces the spook of mechanism into the theory. The internal, endogenous element gains advantage over the other ones: the objectively "inexorable" decline of the profit rate appears to be the definitive force corroborating the subjective inevitability of socialist revolution. (See Mandel 1980, p. 30, 112 ff. a.o.). This remains a sort of dualistic view of the whole process as long as the autonomy of the working class and the inevitable fall of the rate of profit are juxtaposed without a more adequate treatment of the reciprocal influence of different causes.

Another feeling of unsatisfaction emerges from the consideration of the weight Mandel attributes to the inner tendency of the average rate of profit to fall. He seems to consider the rise in the technical composition of capital outside its relation to the organic composition, which must necessarily be expressed in value, and not in physical terms, to have an economic relevance. Although he mentions the critical contribution of Okishio, he does not really deal with his arguments. In order to remain faithful to the view of a dying capitalism, Mandel does not consider the relevance of 'profit squeeze' at the very moment he refers to it. (See Mandel 1981, p. 337). He repeats his adhesion to Marxian priorities without any interest for empirical evidence and refuses an economic fact by using the weapon of mere text exegese; therefore his considerations about the increase of the organic composition of capital and the periodical replenishment of the industrial reserve army of labor remain merely sociological assumptions.

I will conclude my methodological comments by pointing out a discontinuity in Mandel's approach, which offers an empirically as well as theo-

retically unconvincing theory of 'long waves', but nevertheless stimulates research on crucial questions about the definition of capitalistic 'stages' of development, to which Marxist debates are challenged to give better articulated answers. Many questions have been rightly formulated by Mandel, what constitutes a great stimulus for future discussion.

III. Baran's and Sweezy's 'History of Monopoly Capitalism'

Being well aware that an adequate discussion of Baran's and Sweezy's contribution¹⁾ would ask for an attention which cannot be payed to it in the limited present framework, I will point out some elements of their theory that can be compared with other attempts of historical periodization in the context of long waves and stages theories. I will briefly summarize the main concepts of the authors' investigation, which asserts to aim at filling a lacuna in traditional Marxism by explaining the generation and absorption of surplus under conditions of monopoly capitalism.²⁾

Interpreting various statistical material, they come to the assertion that monopoly profits are, in the absence of price competition, permanent and steadily increasing over time. What Schumpeter called the 'perennial gale of creative destruction'³⁾ has become a mild breeze which no longer constitutes a threat for the big corporations. The social system does not provide enough outlets to absorb the rising surplus. In particular, monopoly capitalism tends to slow down the imple-

1) I will review and briefly discuss some assertions from Baran, Sweezy 1966, with particular attention to chapter 8.

2) See op.cit., p. 8.

3) Schumpeter 1942, pp. 84-85 (quotation from Baran and Sweezy). Rejecting Schumpeter's vision of economic change, the authors seem to refuse all other formulations of the long wave theory (see Baran, Sweezy, p. 230). As a matter of fact, as I will show later, it would be very difficult to reconcile Kondratieff's periodization with the "history of monopoly capitalism" that is expounded in chapter 8 of their work.

mentation of technological innovations.⁴⁾ Technological progress determines the form of investment, not its amount. Given that capitalists' and workers' consumption are not large enough to absorb the rising surplus, its realization appears to be a crucial problem of the present economy, more chronic than it was in Marx's time. Stagnation is the normal state of US economy (op.cit., p. 73 f., 97, 76).

In reality, however, this tendency is counteracted by other forces which occasionally offset - as "powerful external stimuli" - those depressive effects. These stimulating factors are wars and their aftermaths and the epoch-making innovations.⁵⁾ Basing on the last statements, the authors outline a "history of monopoly capitalism", in which prosperity proceeds at the same pace as the opening of great investments channels, whereas stagnation and destruction of produced wealth occurs in direct proportion to the difficulty of absorbing the rising surplus. They arrive at the following periodization:

1880-1907. This was the epoch of the railroad, a stimulus which "occupies a unique place in the history of capitalism" for it directly absorbed close to half of all private investment and opened outlets for a great deal more. In 1907 meant the end of the railroad epoch; the crisis of that year made railroad investment precipitate and then remain permanently at a much lower level. Stagnation began.

4) Still criticizing Schumpeter's view of technological innovations, Baran and Sweezy argue that the introduction of new techniques will normally be avoided by the giant corporation, insofar as the monopolist prefers "to wait until his existing capital is ready for replacement anyway before installing the new equipment", if this involves adding to productive capacity. (Op.cit. p. 95). This argumentation is refused by Aglietta 1976. Without going here into a discussion of the theoretical weakness in Baran's and Sweezy's assertions, I want to underline that what the Marxist authors define as "the lag between scientific discovery and economic application" (a result of the anarchy which is peculiar to the capitalistic mode of production) corresponds to Gerhard Mensch's analysis of the shortsightedness of individual management (as tragical omissions and delays which can and must be corrected by the enlightened bourgeoisie. See Mensch 1975, chapter 6 and 7).

5) These are the innovations which shake up the whole economic system and provide relevant investment outlets in addition to the capital they directly absorb. The authors argue that only three forms of technological implementation (steam engine, railroad, automobile) produced such a radical effect, enlarging the market for a range of new industrial products and putting their stamp on a whole era.

1907-1915. This was a period of growing difficulties, with unemployment, underutilization of productive capacity and 'creeping stagnation'. Only the outbreak of the First World War could avoid a longer depression. 1915, which according to many long wave theorists⁶⁾ corresponds to the upper turning point of a long cycle, represents here the beginning of a boom.

1915-1929. The war created the conditions for a new period of prosperity: during the combat phase by raising military demand and converting existing plants to war production, in the aftermath phase through the backlogs of civilian demand caused by a combination of price increases and rationing which had occurred during the previous phase.

In the meantime, the automobile industry was reaching a tremendous impact through direct and indirect effects on the demand for capital. The car boom had started the process of suburbanization with a net of residential, commercial and highway constructions, furthermore stimulating the petroleum industry and other branches. These were the reasons why 1925, when the effect of the postwar aftermath had already subsided, the impetus of automobilization was strong enough to keep the boom going for more some years. But beneath the prosperous surface of the 'New Era' "the seeds of disaster were busily germinating". The rate of investment that would have been required to sustain the economy's rate of growth could no longer be maintained. After 1923 excess capacity accumulated at a rapid pace. (Op.cit., p. 235 ff.).

1929-1939. The Great Depression that initiates this period represents in the authors' opinion no deviation from the rule: it was in fact the practical realization of the "theoretical norm toward which the system is always tending". (Op.cit., p. 240). In the absence of 'external stimuli', the stagnationist tendencies inherent in monopoly capitalism rose to the surface and put their stamp on a whole decade, until the economy was once again stimulated by the Second World War.

6) See Schumpeter 1939; furthermore Mandel 1972 and 1980 and Gordon 1978, among many others.

1939-...?⁷⁾ Increased military budgets and the second wave of automobilization provided conditions for a new prosperity. Initiating in 1945, just at the end of the war, that wave absorbed vast amount of savings, being interrelated, in a sort of snowball effect, with a series of infrastructural conditions which sustained the boom for many years. The authors characterise 1963 as a year of sustained upswing. Indeed, the unemployment rate and the underutilization of capacity-index would suggest that the familiar symptoms of inadequate surplus absorption began to appear in spite of the general prosperity. Together with other unfavorable conditions as population growth in a time of increasing automation, those signs would leave no doubt about the gloomy future of the US-economy and, more in general, of the whole capitalistic system.

Baran's and Sweezy's theory of external stimuli shows some analogies with Mandel's perspective: in both views the downward secular trend is counteracted by exogenous shocks which temporarily stimulate the whole economy for some time. Consequently, Mandel's 'asymmetry' finds its equivalent in the "history of monopoly capitalism", namely in the alternation of lower turning points where external factors cause a powerful upturn of the stagnating economy and of upper turning points in which the long-term tendency of the whole system to stagnate again imposes its internal logic.

Similarly to Mandel, Baran and Sweezy show a decided underestimation of innovative changes which could shake up again the whole pattern of economic life. Moreover, any wage increases appear to them to have no decisive influence on the problem of surplus absorption. In their opinion, labor unions have not enough power to capture a steadily increasing share of total income for the workers. Thus a long run profit-squeeze theory⁸⁾ is rejected. (See op.cit., p. 77 f.).

An exclusive attention being paid to wars and to what Baran and Sweezy

7) After Baran's death, Sweezy completed the work which had been prepared in common. 'Monopoly Capitalism' was edited by him in 1966. These circumstances can explain why the authors did not come to 'close' the periodization of the last epoch. From their argumentation, however, it can be argued that the beginning of a new stagnating period has to be located approximately after 1966.

8) For a discussion of the profit-squeeze phenomenon see Sylos Labini, Glyn and Harrison, Ipsen, among many others.

call 'epoch-making' innovations, the alternating phases of prosperity and stagnation must necessarily be directly determined by the outbreak of the two World Wars, railroad investment and automobilization boom. Rejecting the hypothesis of a long wave pattern in the economy, the authors offer a periodization of capitalistic epochs which is characterized by the absence of any regularity.

IV. The theory of Gordon, Edwards and Reich

On the base of the Marxian crisis theory, other economists¹⁾ aim at pursuing the application of his abstract perspective to the actual forces which play a role in the present crisis. The need of concreteness leads them to pay attention to the specific institutional context which largely determines economic behavior by facilitating or braking capital accumulation. Looking at the history of the ups and downs in the capitalist world economy, they emphasize the importance of the internal forces which generate long waves by providing conditions of structural stability: a full set of integrated institutions that is required for capital accumulation to gather momentum and to continue. These institutions are called the "social structure of accumulation", being the necessary framework that accompanies, in a specific feature, the development of long economic cycles.

Capitalist economies have experienced a series of "universal crisis" by passing through specific structures which can be called stages of capitalist accumulation. The history of long waves has correspondingly involved a history of successive stages of capitalist accumulation (Gordon 1978, p. 27). According to the last assertions, the three main concepts (long waves, stages, social structures of accumulation) seem to be interchangeable entities, merely different names to indicate the same phenomenon. However, their correlation is a more subtle one: long waves and stages are "mediated by a determinate institutional structure, the social structure of accumulation, which cannot be analyzed separately from (and therefore is not exogenous to) the capitalist economy itself" (Gordon, Edwards, Reich, p. 26). Historical analysis must correct a weakness in traditional Marxism by providing an additional tool which

1) I intend to review and briefly discuss two recent contributions: Gordon 1978 and Gordon, Edwards, Reich 1982 (with particular attention to the second chapter of the book, which bears the title 'Long Swings and Stages of Capitalism'). Although the concept of "infrastructural investments" as providing "a center of gravity for the timing of the long waves" (Gordon 1978, p. 31) seems not to receive a significant elaboration in the 1982 study, I see a substantial homogeneity between the two works. Therefore my quotations from the former are embedded in the critical discussion of the latter without any discontinuity.

complements the abstract Marxian approach²⁾ and more concrete studies of everyday life: an intermediate level of analysis focusing on the internal logic of long swings and stages of capitalism. Endogeneity thus characterizes the concept of "social structure of accumulation": as a set of relations and contradictions of the conditioning environment, this structure is external only to the decisions of each individual capitalist, while being internal to the law of development of capitalist economies. (Op.cit., p. 22, 26).

The political-economic environment which, according to the authors, has too often been left to the investigation of sociologists and political scientists and therefore excluded from the very aim of economic science, gains a central position in the analysis. This environment consists in a finite number of requirements which are necessary to make capital accumulation take place: general institutional features as the system ensuring money and credit, the pattern of state involvement in the economy and the structure of class struggle, besides more specific conditions which relate to one specific step in the accumulation process as systems of supply, management and final demand structures, intercapitalist competition, marketing, advertising etc. In one word, no aspect of social reality can be neglected as irrelevant, provided it is directly or indirectly related to the complex way of functioning of capitalist accumulation.

2) Basing their analysis on the historical materialist perspective, the authors underline five dynamic tendencies as the forces which account for a great deal of the concrete history of capitalist societies:

1. The expanding nature of the capitalist system transforms new areas of social life into profit-making activities.
2. Capitalist accumulation persistently increases the size of big corporations while concentrating the control and ownership of capital in fewer hands.
3. Capital accumulation spreads wage labor as the prevalent system of production, draws a larger proportion of the population into wage-labor status and replenishes the reserve pool of labor.
4. Capitalist accumulation continually changes the labor process through the introduction of improved technologies and new machines and the imposition of more intensive labor-management system.
5. Atomized by labor market competition and faced with the threat of unemployment, workers have been driven to protect their wages and working conditions through informal resistance on the job and more organized forms of political activity. Collective working-class activity is a direct result of capitalist development.

The authors, which propose an "alternative model" to the traditional way of studying long waves, emphasize the multidimensional character of the capitalist accumulation process. This leads to a reformulation of the concept of endogenous contradictions which - partly in response to exogenous events - ultimately bring prosperity to an end. The crisis exacerbates the conflict over the structural changes which are necessary for the recovery; the resolution of this conflict involves unpredictable political elements. (Op.cit., p. 28).

At the beginning of a period of expansion (such as the late 1848s, late 1890s and early 1940s in the U.S.A.) rapid economic growth depends upon a favorable structure of accumulation. The previous crisis has particularly moderated class struggle and restored many conditions of profitability through the depreciation of less productive capital or the stimulation of technological innovations. The very reason why expansion continues at a rapid pace is that the favorable conditions for capital accumulation have become institutionalized, consolidated in the society's institutional structure. But stable expanded reproduction cannot continue forever, capitalist accumulation is rooted in some relationships which turn to act as fundamental contradictions (the potential anarchy of competition, the conflict between the capitalists and the working class, among others). The initially favorable forces convert into counterforces which provoke a variety of disequilibria in the sustained phase of the boom.

Self-correcting economic adjustments are possible (short-term business cycles appear as such an adjustment mechanism). The institutional structure seems to remain stable for a long time. Indeed, it often works unfavorably for capital accumulation (example: the proletarianization and homogenization of labor, which, together with the prosperity of the 1960s, destabilized the post war capital-labor accord and undermined profitability conditions), providing barriers and obstacles to the very purpose it has been consolidated for. These constraints provoke in their turn a gradual disruption of the social structure of accumulation. As the economy begins to stagnate,³⁾ the institutions are more and more

3) As a matter of fact, the authors give no explanation of the concrete factors which make an economic system begin to stagnate. (See op.cit., p. 29).

destabilized because their existence presupposes a well functioning economy or because important inputs and resources (labor and energy supply a.o.) have become too scarce for the sake of continued growth. The old pattern of class relations may change and further disrupt social institutions and the smoothly functioning accumulation process. Previous favorable relations act as a boomerang.

Economic crisis is defined as a time of deep instability. Individual actions of management cannot restore prosperity. The virulence of inter-capitalist competition prevents them from engaging in collective actions. Even if they are able to overcome anarchy, their action is likely to occur with the opposite moves of other social classes. Consequently, the resolution of an economic crisis is mostly shaped by the relative power of capitalists and workers, and the new social structure which will emerge from the crisis must necessarily reflect the alignment of class forces that produce it. (Op.cit., p. 30f.).

This transformation model can be summarized in three main propositions:

- a) The social structure of accumulation acts like a durable investment that, once installed, pays off over a long period. Born after a long period of experimentation, it is a stable, successful mainframe for a rapid pace of capital accumulation.
- b) The structural institutions become limits to indefinite expansion. They act as direct constraints, or their slow erosion can create further obstacles to sustained accumulation.
- c) The new social structure of accumulation which emerges from the resolution of each economic crisis is likely to differ from its predecessor, thereby generating a succession of stages of capitalism, each characterized by a specific set of institutional features.⁴⁾

Like Mandel, Gordon, Edwards and Reich accept Kondratieff's periodization of the long waves. As we have seen, the lower turning points are the late 1840s, late 1890s and 1940-48, each initiating a period of

4) Op.cit., p. 32. In my opinion the authors do not show the qualitative differences which are inherent to each - historically given - social structure of accumulation. In spite of the richness of their study on labor segmentation in the U.S.A., the concept of social structure of accumulation is not yet formulated with the precision which should be required in order to integrate socio-historical investigation and economic analysis.

prosperity which lasts about 25 years. But why do the upswings last so long before contradictions develop? And why are they approximately of the same duration as the downturns?

Gordon suggests that the duration of the boom is related to the massive spending for infrastructures which are involved in the institutions associated with each stage of accumulation. The long periods of their multiplying effect provide the long duration of prosperity, whereas the long periods of social repayment prevent their substitution through new infrastructural forms (the implementation of technological innovations) until the crisis initiates.

The answer of the second and other questions is mostly given by the historical analysis the authors develop, which is too comprehensive and detailed to be summarized in this paper. In my view, only a part of the problems advanced in the long wave theory are solved by their contribution, but the richness of their study over segmentation of labor in the U.S.A. constitutes a sure progress for further analysis.

I do not think Mandel's critique⁵⁾ of Gordon's theory can be accepted. I do not see any determinism in Gordon's explanation of the outcome of the depression, which not only focuses endogenous factors in the process of capital accumulation but also suggests an interplay of multicausal features, similar to the 'dialectic' of interacting elements Mandel seems to plead for. (See Mandel 1980, p. 48 f.). In spite of Mandel's criticism, Gordon, Edwards and Reich attribute a very important role to class struggle in the process of economic changes.

In my opinion, the authors are perfectly right in their pleading for a multicausal perspective in the analysis of long fluctuations. Their theoretical approach concentrates on some structural dimensions of social history which are said not to be the only ones and not necessary

5) If it is true that in 1980 Mandel could not know the further development of Gordon's theory, I do not think the concept of "infrastructural investments" as a cause among others for the long duration of prosperity introduces an economistic and deterministic bias in his approach. It is quite right for a Marxist to consider what Mandel calls "relative autonomy of the subjective factor" as a moment, among others in economic change, which is deeply influenced by the reality it contributes to shape. In spite of Mandel's irritation, revolutions do intervene in Gordon's scheme, may be in a less vehement tone. (Compare Mandel 1980, p. 51 ff. with Gordon 1978, p. 31).

the most relevant in the study of economic dynamics (see Gordon, Edwards, Reich, p. 32). What is decisive is not once and for all predetermined, the concept of relevance being deeply related with the purpose of each working model. Consequently, it seems to me that the juxtaposition of 'endogenous' and 'exogenous' factors does not reflect the complexity of the situation economists are confronted with.

Many causes Mandel inclines to define exclusively "external" or secondary (income distribution, technological innovations, supply side) are likely to be much more related to the inner logic of capitalist production than the supposes. The very complex reality of present capitalism cannot be treated with traditional assumptions with appear, after a century from Marx's 'Capital' too rigid and dogmatic formules for a real development of Marxist theory.

In this sense, the analysis of Gordon, Edwards and Reich is a very fruitful contribution. The seriousness of their approach seems to be consistent with the complex spectrum of their present investigation. However, I want to point to a dilemma which, in my view, characterizes their interest for the dynamics of stages of capitalism seen as long waves of sustained and decelerated accumulation. In a brief appendix about "the evidence of long swings", average growth rates in real output are discussed besides other indicators which surely corroborate evidence about the alternation of periods of expansion and contraction, but by no means are convincing in order to reason in terms of a regular pattern which is supposed to repeat itself with a fairly stable periodicity.

The fact that any perfect regularity of the pattern is denied by the authors does not eliminate the question about the plausibility of their wave concept. If neither historical analysis nor statistical evidence can show the real existence of long swings, this concept seems to me to become contradictory to their theoretical mainframe. Since the eminently qualitative nature of the theory of 'social structure of accumulation' elaborates a number of statements with regard to which Kondratieff's long wave hypothesis - even if deprived from his mechanicity - appears as methodologically redundant. A discussion over alternating phases or periods or stages of capitalist development appears more consistent with the model's premises.

V. The 'regime of accumulation theory' (Aglietta, De Vroey)

Recent French studies¹⁾ have elaborated the concept of 'social regulation' as a new analytical tool in response to the neoclassical theory of General Equilibrium as well as to the Sraffian equilibrium framework.²⁾ Their dissatisfaction with the body of established doctrine is expressed by the refusal to think in terms of reversibility of technological change. To the orthodox models of growth Aglietta counterposes a 'theory of capital regulation' in which fundamental Marxian insights are retained and supported by a long-run historical analysis of the economy of the U.S.A. This analysis shows that in the praxis fixed capital investment is by no means 'reversed', but that it is devalorized and destroyed. Consequently, the alternative theory must focus overaccumulation and devalorization as central moments in economic change. Historical experience shows that transformation means qualitative change, a rupture between structural forms inherent to different regimes of accumulation. On the background of Aglietta's concept of 'regimes of accumulation', Michel de Vroey has tried to develop the specific institutional features which determined - before and after World War Two - the four 'key institutional areas', i.e. the wage relation, commodity relations, cyclical dimensions and state intervention. He develops a scheme of 'distinctive features' which corresponds to two distinct phases or rather two different regimes of accumulation in the development of capitalism, which are separated by the interwar period.

The first phase is dominated by the 'regime of extensive accumulation'. During this period productivity rises especially in Department I (pro-

1) I will briefly expound a few concepts from Aglietta 1981 and review some aspects of De Vroey's approach (1983). De Vroey 1984 is a revised English translation of the Dutch essay I will mainly refer to. The two contributions show some differences in the exposition of single points, but they are based on the same working concepts and come to very similar results.

2) See Sraffa, Part III, chapter 12. For other references about the 'reswitching' of techniques and a critical discussion of the relationship between Sraffa's approach and Marx's labor theory of value see Penavaja.

duction goods industries) and not yet considerably in the consumption goods department. The wage-earning class is not completely subsumed under capitalism, it produces commodities for the market but consumes mostly goods which are produced outside the capitalistic process. Pre-capitalistic ways of life go hand in hand with capitalistic features in this phase: whereas women, children and unemployed depend basically on housework activities and charity initiatives, the men's work in the factory is dominated by scientific organization of labor and Taylorism. Capital's authority is strong enough not to need social consensus. Price flexibility occurs through competition, industrial and financial capital are tightly linked. Gold standard and British hegemony characterize this extensive accumulation regime which, in De Vroey's scheme, dates from mid-19th century until the First World War.

The 'regime of intensive accumulation' emerges at the end of World War Two. It is characterized by the absence of the conditions that gave their mark to the previous phase. Accumulation proceeds at a more balanced pace of productivity growth in both production departments. Capitalistically produced commodities are for a great part consumed by the workers themselves. Women are active in productive and service sectors. All aspects of life are dominated by the capitalistic mode of production. Fordism³⁾ supports Taylorism in the factories. The labor movement acts in syndicates and trade unions.⁴⁾ The welfare state intervenes with a capillary net of institutions in everyday life; a broad consensus is necessary to social stability.

The Bretton Woods monetary system and its crisis characterize the international context, which is marked by US-hegemony. Monopoly capital has eroded competitive conditions; prices are mostly rigid. Banks and hol-

3) Like Aglietta and other French authors, De Vroey defines "Fordism" primarily with regard to the specific features of the labor process prevailing in the intensive accumulation regime. The notion of a Fordist stage refers to a double change: technical change in the production system (introduction of semi-automatic assembly line production) and change in the way of life towards mass-consumption. The concept of Fordism also implies a "fully-constituted wage relation" (De Vroey 1984, p. 52 and 1983, p. 110).

4) Interesting formulations about various steps in the institutionalization of the class conflict and a historical periodization of capitalism are given by Blanke, Jürgens, Kastendiek.

dings face one another without the previous ties which connected industrial to financial capital. Liberal views are substituted through a 'soft Keynesianism'⁵⁾ which aims at correcting market imperfections.

Before going into a critical discussion of this model,⁶⁾ let us turn to De Vroey's historical periodization of the different regimes of accumulation, which is given as follows:

Until mid-19th century: Settlement of capitalism.

From mid-19th century to 1914: Extensive accumulation or competitive regulation.

Interwar period: Transition from extensive to intensive accumulation.

1945-1970: Intensive accumulation or monopolistic regulation. Within this period the years 1950-1970 emerge as a period of prosperity ('golden age phase').

After 1970: Crisis of intensive accumulation (De Vroey 1983, p. 105).

While showing the differences between these phases, De Vroey does not point out any swings; he aims at discussing the phenomenon of crisis outside the periodical symmetry which is more or less implied in the long wave concept. The lack of a rigid scheme to observe and interpret reality could be a favorable condition for original contributions. Indeed, the key institutional areas appear in this analysis not sufficiently elaborated, and the periods of extensive and intensive accumulation are mostly juxtaposed in a simplistic way, making the latter not much more than a reversion of the previous one. Concepts as Taylorism and Fordism are not analyzed in detail, the implications of decisive

5) De Vroey points out that it is not correct to speak in terms of a real failure of Keynesianism, since Keynes pleaded for a radical program of investments (7,5 to 20% of netto national income) which was never realized. He underlines Keynes' contribution in opposition to liberalism, but at the same time he hints to the "obstacles", which also make a radical Keynesianism a very improbable remedy of capital's sickness (De Vroey 1983, pp. 122-126). A detailed discussion of the crisis of "Keynesianism" is given by Bucí-Glucksman.

6) In his model De Vroey sketches some more feature I will not mention, for this would exige a more detailed analysis which would exceed the scope of my present work. Being well aware of this limitation, I nevertheless think to do justice to the author's contribution, which, as I will try to show, does not develop an integrated system of distinctive concepts while formulating a lot of general notions which are not adequately elaborated.

changes in the labor process and in general consumption remain abstract prepositions which are not developed into economic analysis. Within the period of extensive accumulation, which according to the model lasts about 75 years, no relevant differentiation is made to explore more deeply the modes of life of the wage-earning class.⁷⁾ The interwar period from 1915 to 1944 is summarily dispatched with the expression: transitional phase.

Similarly, the structural crisis of 1930 is briefly mentioned as "the crisis which meant the end of the regime of extensive accumulation" (op.cit., p. 112). Times were not yet ripe to establish Fordism solidly. As technological progress spread to Department II, so it is argued, the development thus generated was stopped by absorption problems due to the lack of purchasing power of the workers. Real wage increases were not yet planned according to rises in productivity, as long as an adequate institutional setting (collective negotiations about wage level) was absent. Although some of these considerations may be right, I doubt they can give a good explanation of the Great Depression. To avoid misunderstandings I take into account that the author was not so much interested to discuss it in details. It is not the lack of a broader analytical spectrum to describe facts what I miss in De Vroey's approach, but the very method he uses to explore past and present crises. He keeps on handling his bidimensional scheme as if the concept of 'absence' could illuminate previous states of things where other conditions are 'present' and the new features are not yet ripe, therefore absent. He describes every economic phenomenon looking at the immaturity of future conditions, what turns to be a sort of tautological explanation of reality. He brings institutional features which are peculiar to the intensive regime of accumulation into the analysis of the previous regime, instead of showing how social and economic change develops from the contradictions that are inherent to that very extensive accumulation regime.

Turning to the 'macro-social crisis', De Vroey defines conjunctural

7) Many features which are peculiar to the workers' situation during the time De Vroey indicates as period of extensive accumulation are developed by Marx 1867, chapter 11-13. See also Marx 1969, p. 45 ff. (about formal and real subsumption of labor under capital).

crises as the frequently appearing expression of a deeper process: that of structural crisis. The present crisis can no longer appear as a simple coexistence of weakness symptoms, for the whole institutional context which emerged from World War Two is disrupted, with serious consequences for the entire economy. He discusses seven conditions which were necessary to a good functioning of the intensive accumulation regime:

1. Coherence of the productive system, i.e. a good integration between different production phases and branches, sustained by a permanent increase in productivity.
2. An adequate system of collective bargaining which made real wages rise according to increases in productivity, avoiding underconsumption troubles.
3. State intervention in the fields of wage negotiations, welfare institutions, monetary and anti-cyclic policy ('soft Keynesianism'), support of national enterprises etc.
4. A specific hierarchy between the different parts of the international economic system which was unfavorable to the 'periphery' (terms of trade favorable to the 'centre') and which furthermore strengthened the central economies through a net of interdependences and complementarities.
5. A creeping inflation, which was sustained enough to act as a stimulating factor and not so high as to exert a harmful effect on the whole economy.
6. An adequately functioning capital market where productive investment prevailed over preference for liquidity.
7. An adequate supply of labor, incremented through female participation and immigration movements. (Op.cit., pp. 114-117).

The crisis of the regime of intensive accumulation is explained by De Vroey through a reversion in all the above mentioned conditions. Turning around the previous argumentations into their negative form and adding some descriptive assertions about present dilemmas, he presumes to outline the fundamental features of our structural crisis. Although he tries to look at economic phenomena on the basis of revised Marxian

categories,⁸⁾ he fails, in my opinion, in his claim to offer an original interpretation of the crisis.⁹⁾ One gets the impression that De Vroey's work suffers from a fundamental misunderstanding: to accept the Marxian view of the intrinsically selfcontradicting nature of capitalism is not the same as to assert that all goes well until it begins to go bad. (See op.cit., p. 117).

Similarly, to assert the critical role of political economy (as a socio-historical approach illuminating conflicts and not being compelled to give practical hints for economic policy), ought not to mean neglecting a causal explanation of the facts. Reluctant to mention the factors which contributed to a rupture in the 'status quo' of economic dynamics, driving from pillar to post, De Vroey seems to be afraid of dirtying his soul by plunging into the triviality of a concrete exploration about relations of cause and effect.

The author argues that the crisis is a crisis of the whole fabric, a vicious circle of factors which reinforce each other. Key of the whole structure is productivity, but it is itself the result of the other mutually reinforcing factors. Rejecting any mono-causal explanation as inadequate and insisting on the circular nature of all relationship, he renounces - in spite of his aim - any diagnosis or even partial explana-

8) De Vroey discusses the two "basic features of capitalism" which apply unchanged to present situation: its functioning as a market economy (decentralization and uncertainty) and the workers' dependence upon wages. He defines the workers' position as ambivalent and ambiguous, for they are subordinated and exploited but at the same time loyal to the particular capitalistic unit which employs them and thus, indirectly, to the whole capitalist system. It is interesting to note that the author, in contradiction to his asserted refusal of putting forth economic policy steps, concludes his 1983 essay by suggesting practical solutions: a reduction of working time accompanied by a reduction of real individual income (De Vroey 1983, pp. 102-105, 127 f.).

9) The circumstance that De Vroey's contribution intends to remain at a high level of generality (op.cit., p. 102; De Vroey 1984, p. 45) does not account for this weakness. In fact, his study moves from very abstract propositions to quite concrete points of discussion without a sufficient harmonization of the different levels. When he later writes that his analysis does not attempt "to substantiate the assertions advanced with facts" - this being partly done in the work of French authors he briefly mentions - (op.cit., p. 45), I fail to understand the meaning he gives to terms like "diagnosis" and "interpretation of contemporary crisis" which are emphasized in the titles of both his works.

tion. (See *op.cit.*, pp. 117-119; De Vroey 1984, p. 60). In my opinion, it would have been preferable to outline the relations between "the collapse of productivity as it emerges from statistical evidence" and other factors, such as the delay in technological development or in the implementation of innovations, points that are only briefly mentioned by him (De Vroey 1983, p. 118) in a list of items which let the contradictions act only in the limited space that has been given to them: each of the above mentioned 'seven conditions', standing close to each other without a real reciprocal influence.

Only from a more complex elaboration of the 'distinctive features' of the two accumulation regimes and an adequate development of both horizontal and vertical dimensions of the model, it could be possible, in my view, to reach the level of mediation between abstraction and concreteness the author is looking for. More attention to economic facts together with more resolution to name main causes, instead of being obsessed by the idea of a perfect vicious circle, would make De Vroey's analytical framework more fruitful.

VI. Concluding remarks

As I have pointed out, all the attempts at a theoretical definition of the long wave concept reviewed above seem to show a peculiar weakness: they do not reach a convincing connection between the empirical level and its interpretation in the long swing perspective.¹⁾ When the hypothesis of capitalis stages gains importance, as in Gordon, Edwards, Reich, it seems to be more compatible with the model's assumptions. On the other hand, once deprived of the regularity the capitalist long wave theory offered in Kondratieff's periodization, it does not show relevant progress: a more original periodization in De Vroey's approach appears to lack a good elaboration of the conceptual framework.

The proposal of filling some gaps on the basis of alternative theories is a direction which does not tempt me, as attractive as it may appear in order to 'close'²⁾ empty spaces or to design some better analytical tools for future analysis. I am more interested in pointing out a dilemma which, in my view, is inherent to all versions of the long wave theory. This can be briefly expressed as the difficulty to make opposite categories coexist in the same theoretical framework. As we have seen, the attempts of many theorists to base their long wave analyses on statistical evidence do not reach the promised result. Paradoxically enough, this circumstance turns to be of some advantage for the theories³⁾ which aim at reproposing Kondratieff's periodization outside the

1) See my remarks on Mandel, Gordon, Edwards, Reich in chapter II and VI of this paper.

2) Such a harmonization seems to me to result from a wrong vision about the tasks of political economy: according to this vision the different factors which determine economic change are seen as the "disconnected pieces of the puzzle" that are "to be put together" in order to arrive at a "more integrated theory" of present crisis (Bruckmann, p. 8). The complexity of the long wave phenomenon seems to these economists to require a complex explanation: an integrated, "grand unification theory" of long term dynamics. They plead for "an open minded, eclectic, yet methodologically rigorous approach". (Forrester, Graham, Senge, Sterman, p. 45. See also Delbeke 1981, p. 255). What these authors do not explain is on which methodological bases the desired integration can be obtained, a question the clarification of which appears to me a necessary condition.

3) See Mandel; Gordon, Edwards, Reich among others.

rigidity it received in his 1926 formulation. Indeed, convincing evidence about the existence of Kondratieff's long wave pattern as 'real' cycle⁴⁾ would imply exclusive attention to the 'endogenous' factors which are supposed to produce the periodical long swings. Such a model of a 'true' cycle would be mechanistic enough at the very moment it gains theoretical credibility.⁵⁾ It is an inner contradiction - a serious dilemma - no formulation of the long wave theory can escape. Altvater⁶⁾ has recently proposed a sort of integration of what he calls the distinctive features of each theory, arguing that regularity in the phases of development is inherent to the stages theory, whereas the aspect of rupture between each swing and the following is the fundamental key of the long wave hypothesis. In my opinion, this argumentation is not quite correct. In fact, periodical regularity and rupture are both necessary categories to explain the long wave phenomenon. Concentrating our attention on the perspective of different stages of capitalistic development - outside any determinism, preformed phases datation⁷⁾ and symmetry temptation⁸⁾ - seems to me a better aim of scientific effort. In this sense, the approach of Gordon, Edwards, Reich and Aglietta's work - how different they may go in their present conclusions - seem to inaugurate new paths of research for Marxist studies. Retaining the essential insights of Marx's 'Capital', their attention for the institu-

4) Only the evidence of real variables such as industrial output or Gross National Product can show the 'real' nature of the long wave, i.e. demonstrate that the latter is not only a monetary phenomenon.

5) This has been underlined by Bieshaar, Kleinknecht. In their 1983 contribution they test the Kondratieff hypothesis with the method of log-linear trend curves and demonstrate that the result is ambiguous, being consistent with different interpretations about the historical relevance of the Kondratieff cycle.

6) See Altvater 1983, p. 222.

7) The circumstance that Kondratieff's periodization of capitalist development has been accepted by economists of very different positions seems to hint to the ambiguity of the long wave theory. It makes me think of a unique type of sun glasses for all bathers' noses: it may be a cheap and practical fashion but it spoils the eyes.

8) See the interesting contributions of Ewijk 1981 and 1982, who submits the long wave hypothesis to various "empirical tests of existence" and concludes by denying its practical relevance.

tional factors which accompany and engender capital accumulation lets emerge a lot of conditions traditional Marxism has too often neglected as 'superstructural'. In both theories, a basic concept of historical materialism - the contradiction between productive forces and production relations as the motor of economic change - is focused and applied with-
in the capitalist mode of production. Social and historical analysis have to go hand in hand with economic investigation, as different but complementary aspects of the same reality. Present crisis is understood as a deep transformation of all forms of social structure. It would be of great advantage for Marxist research if both working hypotheses - social structure of accumulation and regime of accumulation - could lead to a confluence of scopes.⁹⁾

In this perspective, economic investigation cannot be the simple study of a pure capitalist system; in particular, the internationalization of the credit system must be taken into account as well as the industrialization of some states of the Third World. The conflict between national states and the economic power of the multinationals, the crisis of US hegemony and the extension of the capitalist mode of production to new areas of development are crucial questions which must be assigned a place aside the investigation of each national economy in order to receive a satisfactory answer.

9) As I have pointed out in a footnote to chapter IV, the concept of social structure of accumulation has not yet been precisely formulated within an analysis of the qualitative differences which have characterized each accumulation structure in the course of capitalist history. De Vroey's model, on the contrary - while paying attention to the historical forms assumed by two successive accumulation regimes - has not developed a well integrated system of working concepts. In my opinion it would be possible to fill these lacunae through an adequate integration of the two theories.

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